

# The Beauty of a Dual-Blade Vitrectomy Probe



A new probe makes a big leap.

BY PETER A. KARTH, MD, MBA



We are called *vitreo-retinal surgeons*, but, for the most part, we are *vitreous surgeons*. Membrane peels are

an important part of our skill set, but I would venture to say that most of our surgical time is spent dealing with vitreous. Even straightforward surgery for an epiretinal membrane may take an unwanted turn if a retinal tear occurs, which is nearly always caused by vitreoretinal traction.

Retinal detachment surgery, too, is all about the vitreous. The vitrectomy cutting probe is front and center during this important task. We have seen huge improvements in vitrectomy probe cut speed and gauge size in the past decade. To me, the biggest leap in development has arrived in the form of the HyperVit Dual Blade Vitrectomy Probe (Alcon), which has quickly become my favorite instrument for vitreoretinal surgery (Figure).

## USER EXPERIENCE

In my experience, this probe has dramatically reduced vitreous movement (due to constant vitreous flow) and nearly eliminated retropulsion. These innovations have led to a decrease in vitreous turbulence, which reduces vitreous traction on the retina.

## SINGLE-BLADE SYSTEMS

In a single-blade system, turbulent retropulsion occurs each time the port is closed. When the port is open, vitre-

ous is aspirated into the port; when the port closes, there is turbulent retropulsion and vitreous recoil, which turns vitreous strands into whips and transfers kinetic energy back to the retina. We see this most clearly when performing peripheral vitreous shaves on detached retinas, scenarios in which we often see iatrogenic retinal breaks (secondary to retropulsion and vitreous recoil).

## DUAL-BLADE SYSTEMS

Vitrectomy probes that are always open allow continuous and constant flow, free from retropulsion. Fluid and vitreous are constantly aspirated into the port, allowing smooth aspiration without turbulence and traction on the retina. This allows me to move the probe directly onto the detached retina without the fear of creating a break. I no longer see turbulent vitreous whipping. This has led to fewer iatrogenic breaks, even in surgical cases involving the macula.

With this higher flow, a dual-blade port allows me to quickly remove vitreous, and the 27-gauge port practically eliminates any wound leak. Overall, I believe the 27-gauge HyperVit Dual



Figure. The dual-blade design of this probe allows constant vitreous aspiration, reducing retropulsion and vitreous recoil during vitrectomy.

Blade Vitrectomy Probe represents a huge leap forward from the 25-gauge systems I previously used, and even the 27-gauge 10,000 cpm system. ■

## PETER A. KARTH, MD, MBA

- Vitreoretinal Surgeon, Oregon Eye Consultants, Eugene, Oregon
- PeterKarth@gmail.com; PeterKarthMD on social media
- Financial disclosure: None

## AT A GLANCE

- ▶ An important difference between single-blade and dual-blade vitrectomy probes is the rate and constancy of vitreous flow during vitrectomy.
- ▶ A dual-blade system facilitates safer, more efficient removal of vitreous due to a design that constantly keeps the port open, allowing constant even flow.